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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

EYAL **RAZ**
Junior Party
(U.S. Patent 6,498,148),

v.

ARTHUR M. **KRIEG** AND JOEL KLINE
Senior Party
(U.S. Application 09/337,584).

Patent Interference No. 105,526 (MPT)
(Technology Center 1600)

Oral Hearing Held: December 14, 2007

Before SALLY G. LANE, MICHAEL P. TIERNEY, and JAMES T. MOORE, *Administrative Patent Judges.*

The above-entitled matter came on for hearing on Friday, December 14, 2007, commencing at 10:00 a.m., at The U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Janice A. Salas, Notary Public.

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APPEARANCES

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ALSO PRESENT:

JILL BROWNING
KEN GOLDMAN
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PROCEEDINGS

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JUDGE MOORE: Good morning, ladies and gentleman. We are here today for the oral argument in Interference Number 105,526, Raz v. Krieg.

First, initially, if you have a cell phone -- those up here, too -- shut them off so we don't end up with beeping and strange noises during the hearing.

Second of all, if you do have a threshold motion, if you could just lead off with a couple of minutes on that just so we can see if we want to pursue that during the argument.

Other than that, I will ask the junior party to please stand up and introduce themselves and anyone they may have with them.

MR. ASHE: Thank you, Your Honor. My name is Oliver Ashe. I represent the Junior Party Raz. With me at the table, Azy Kokabi of Ashe, P.C. Behind me, Ken Goldman of Dynavax Technologies; Sandra Schultz, University of California; and Jill Browning of Ashe, P.C.

JUDGE MOORE: Thank you.

For the Senior Party.

MR. GREEN: Good morning. Lawrence Green for Senior Party Krieg. I have John Van Amsterdam with me at the table. We're both from Wolf, Greenfield & Sacks.

JUDGE MOORE: Thank you very much.

We have a patent attorney who is working here for Judge Lane here as well, Ms. Katz, who will be attending the hearing.

The junior party will lead off here. Do you want to reserve any time later on?

MR. ASHE: Yes. I'd like to reserve five minutes.

JUDGE MOORE: Okay.

MR. ASHE: Assuming we're starting with 20.

JUDGE MOORE: Starting with 20. We'll let you know if we need more time.

MR. ASHE: Okay. May I approach the bench with bench books that have been served on opposing counsel?

JUDGE MOORE: As long as they have been served.

MR. ASHE: They have. Thank you.

May it please the Board, as Judge Moore indicated, there are a number of motions that have been filed in this interference, several of them raising threshold or potential threshold issues, and I would like to focus my comments on those today.

I think in order to do that, it's instructive first to look at what the state of the art was with regard to the use of CPGs in affecting immuno responses during the relevant time period, and I think the testimony and the evidence that have been developed during the course of the interference clearly establish that CPGs were a known category of compositions in the art.

They were known to be immunostimulatory. They were known that their immunostimulatory effect was to induce TH1-like cytokine profiles.

We also know that TH1 cytokine profiles can influence TH2 cytokine profiles. We know that TH2 cytokine profiles are associated with disease states such as allergies and asthma. And all of this, I think, is very nicely captured in the Kline 1996 abstract.

At the very beginning of that abstract, which is Raz Exhibit 2008, and there they go through what the state of the technology is and then they very clearly set forth the hypothesis.

The hypothesis is what we know -- given what we know in the prior art, can we use CPGs to effect the immune response to establish a TH1 response in an animal model for asthma?

JUDGE TIERNEY: So is it your position the use of CPGs for the treatment of immuno -- let's just say asthma was a predictable art?

MR. ASHE: No. It was not. And I think that that's very clearly established by the fact that they set forth what's in the art, and then in this abstract, the nice thing about it is they very clearly set forth the hypothesis and then set forth the experimental model that would need to be used in order to establish and demonstrate the hypothesis.

And in that animal model what they do is they administer CPGs along with the antigen and they observe that they are able to elicit the TH1 response to the antigen rather than the TH2 response, which is what would happen if the CPG wasn't present during the sensitization phase. So that's their model.

There is a statement in the Kline 1996 abstract talking about the use of CPG alone, and that has been the topic of a lot of discussion amongst the experts and the attorneys. What's the import of this statement?

So when we were cross-examining their witnesses, we asked them questions about that, obviously, and I think all of the witnesses came out saying it's ambiguous exactly what they meant by that statement in the context of this experimental model.

We don't know whether it was used as a control or a potential therapeutic composition, so nobody really wanted to take a definitive position on it.

Probing further and setting forth hypotheticals, what is clear from that is that no one would place weight on it in any way because there was no experimental design and no data associated with the statement, and there's a series of abstracts and the statement appears to become more definite as it goes through time, where ultimately in a 1998 paper they're saying, It appears to have no effect on the immunostimulatory -- in an immunostimulatory way.

The point there is that they have ultimately come up with a conclusion. When I asked the witnesses about it during cross-examination, Okay, now you have a clearer statement. Are you willing to accept that?

No, because there's no data.

And this comes really to I think the crux of case. What do you need in the eyes of the experts in order to establish for one of ordinary skill in the art that you are in possession of a method, a particular method of treating asthma?

And across the board, all of them have said, You need an animal model, for exactly the reason that Judge Tierney, what was imported by his question, it's an unpredictable art, and you need to establish that the effect that you're seeing in a cytokine profile actually translates into a method of treatment.

So that's --

JUDGE TIERNEY: Without the animal model testing, do they lack utility, are you saying, or is this just a lack of possession? Can you elaborate a little bit for me?

MR. ASHE: I think it's -- the problem is several-fold. Basically, what they're providing is the state of the art, and then, by way of their example 12 -- we're switching to their specification now -- a particular hypothesis, and that correlates very closely with what is contained in the Kline 1996 abstract.

Again, you can use CPGs with antigen in order to prevent the onset of the TH2 response. So going directly to your question, what does their specification provide, in one sense it provides really nothing more than what was known in the art already with regard to what CPGs can do.

And then potential hypothesis -- and this is what came from Dr. Center when we cross-examined him. One of ordinary skill in the art looking at that information could hypothesize about methods of treatment, but that would -- that's all it was, and here we have really an unstated as well as an unproven hypothesis with regard to the subject matter of Raz's claims.

JUDGE TIERNEY: So is this more of a Rasmussen type of lack of utility attack, or is this a written description possession attack upon --

MR. ASHE: This is a written description enablement issue.

JUDGE TIERNEY: So you're going for -- you're saying both then and --

MR. ASHE: Yeah.

JUDGE TIERNEY: -- you don't want to pick which of the two.

MR. ASHE: Well, I think that there's components of both in it. If you focus on what the language is, whether they articulate the hypothesis of the subject matter that's covered by Raz's claims, I think that's where you're focusing on the written description component of it. Do they actually articulate that you can treat asthma by administering the CPG without antigen?

JUDGE TIERNEY: Where does the claim say without antigen -- part of Krieg's claims?

MR. ASHE: None of Krieg's claims state that. They are silent with regard to the administration of antigen, and therefore, they would necessarily encompass both -- both methodologies with and without antigen.

JUDGE TIERNEY: And aren't portions of their specification open to use with antigen or just silent as to the lack of an antigen?

MR. ASHE: There are portions of their specification that are silent, so that's commensurate in scope with their claims.

There is a passage that relates to the treatment of allergies and that says alone or in combination with antigen, and the issue there -- again, going back to this client abstract, when we were asking the witnesses, What do you take from the statement that says CPG alone was not effective in reducing the cytokine counts, and they said, Without data, we won't take anything from it.

Whether it said that it did or it did not have an effect on the cytokine counts, unless we see the experimental model and see what is being proved, then we're not going to reach any conclusion because you can't. It's too unpredictable.

JUDGE TIERNEY: I guess one of my problems here is that for a written description, their specification is open to having the antigen there or not there, and what I'm hearing, though, is one of ordinary skill in the art would not find that credible.

MR. ASHE: Not so much that they wouldn't find it credible. The question for a written description is, what would one of ordinary skill in the art consider them to be in possession of?

And if they cannot discern anything from the statement in the claim 1996 abstract, how can they have similar type statements and their specification and be able to discern anything from that?

Moreover --

JUDGE TIERNEY: But if the specification language is commensurate with the claim language, then why isn't that sufficient for written description purposes? They've said they possess it and then they claim it with the same type of language.

MR. ASHE: Because the language in and of itself would not reflect possession of that methodology, and the problem with not having the demonstration through an example is the enablement part of it where the case law holds Rasmussen.

I think you can't simply throw out the germ of an idea, and that's really what we have here, if that, because what they're saying -- they're making very broad statements and they are not articulating in a very clear way.

If you look at the Raz specification -- and I think it's very clear. This method of treating asthma does not require the administration of antigen. It's clear. It's a clearly articulated hypothesis. And then it's demonstrated.

If we overlay that with what we're getting from the Krieg specification, there is no clearly articulated hypothesis and there's no doubt whatsoever that if even if that hypothesis were -- was articulated through this alone or in combination statement that relates to allergies, it was never demonstrated.

And that's really what's required by those of ordinary skill in the art to place any weight with regard to possession because any number of therapies could fall under that language.

And again, I think that's clear from Dr. Center's testimony of, Well, I don't know what you mean by "alone." Alone in what context?

So the written description issue, we've covered it. That's our threshold motion for motion number 1, and I think the way that I've looked at it is that their disclosure in terms of their identification of what was known in the art is very commensurate of what was in the Kline 1996 abstract. The Kline '96 abstract is a condensed version of it.

The example number 12 that they set forth in their specification, the experts agree that that doesn't teach the subject matter that's claimed by Raz, which was part of the prudent claim.

I think it's interesting, at the end of the day, through cross-examination, their experts also indicated that they had questions whether he had demonstrated a method of treating asthma because, again, these claims are direct into treating a TH2 condition.

What they're doing in that experiment is they're administering CPG along with the antigen so that you never reach a TH2 state, so it's a different method -- again, it's a different methodology.

JUDGE TIERNEY: Let me inquire here. If the Board were to find that Krieg had a credible utility in the use of -- or lack of using an antigen, would they necessarily have written description then?

MR. ASHE: No.

JUDGE TIERNEY: Could you please explain.

MR. ASHE: Sure. I think that if they have proposed a method of treating with the CPG and they -- somebody could recognize a utility for

such a methodology, one of ordinary skill in the art would say, Well, that would be useful. One of ordinary skill in the art is still left with the question, That's great, but do they possess it?

I mean, are these inventors, have they really defined this invention in such a way that we can identify the experimental design that they're using to demonstrate it and then look at the data that supports it and replicate it?

So you're going from a -- a possible recognition of utility, but I think you stop dead in your tracks with written description, and then it's compounded when you get to the enablement question.

JUDGE TIERNEY: I guess where I'm going is if they've taught one of ordinary skill in the art how to make the invention and use the invention, then we turn to written descript -- so therefore, they're "enable." We turn to written description and they have language that's commensurate in scope with their claims; how do we find a lack of written description?

MR. ASHE: If -- if they have written description for their claims, you're -- is that what I'm assuming?

JUDGE TIERNEY: What I'm saying is, if the language is there and the specification that's commensurate in scope with the language in their claim and there's an "enable" disclosure for that claim, how do we find a lack of written description?

MR. ASHE: Okay. I think, first of all, the first premise for that is incorrect. It's not commensurate in scope with what they're claiming.

The single passage that we've been focusing on -- we focused on a few other generic statements -- relates to the treatment of allergies, and it's the broadest of statements, and it's, again, playing off what was already known in the art of shifting TH2 to TH1.

The claims that are at issue are dealing with something much more specific and that is the treatment of asthma, so the underlying -- the first presumption I don't think is there, and I don't think at that point that you would say that they have -- that provides written description.

And also, if you put into the component, as I mentioned before, that one of ordinary skill in the art would want to look at the experimental design and look for possession of it, their own experts have said that their example 12 doesn't even demonstrate a method of treating asthma. It teaches a method of avoiding developing a TH2 response, not treating a TH2 response.

The other threshold -- if there are no other questions on the written description enablement motion, I'd like to move on to the no interference in fact, and here, what we're doing, we're looking to Krieg claim 44, treating that as prior art and asking whether the subject matter of that claim would anticipate or render obvious Raz claim 17.

And I think here again the correlation with what one of ordinary skill in the art would glean from the subject matter that's in Krieg claim 44, our position is that it would not teach or suggest the subject matter of Raz claim 17.

Krieg has also filed one motion that relates to interference estoppel that has been designated as a potential threshold motion, and procedurally we have some issues with whether or not it is, in fact, a threshold motion or whether it provides a ground for relief.

As we all know, interference estoppel is not listed as a threshold motion in the rules, and the motions that are relate to the patentability of the applicant's claim. By and large it's no interference in fact. But when you're talking about issues of patentability, it relates to the applicant's claim, do they have standing to be in the interference?

Here what we're looking at is a decision from an earlier interference that created estoppel. The question is whether that estoppel should apply to a patent that issued before the earlier interference was even declared and estoppel moves forward.

The purpose of it is to prevent a second bite of the apple as you're going through prosecution after the interference. Here the patent was already issued, so you're talking about a retroactive application of an equitable principle, and we don't think that that is appropriate.

Secondly --

JUDGE MOORE: Well, assuming the claims were not patentably distinct from the count and it was lost on, say, priority grounds, you -- you'd have a tough time defending that. I think you would have an estoppel.

I mean, your generic statement I have trouble with. Even if the application wasn't involved or the issued patent wasn't involved and it's not patently distinct from a count which you lost in an interference, you still have estoppel.

MR. ASHE: Estoppel from what? And how does that -- how does that come to bear? What are we estopped from doing?

JUDGE MOORE: Well, from -- you know, wait a minute. I ask the questions here.

MR. ASHE: That's the question that stops me in my track is, okay, if it's estoppel, what am I estopped from doing? I already have my patent. Moreover, we don't think that it's the same subject matter, so that's not the issue, but there's also another component of it. The lost count is based on claim 3 of the 646 Krieg patent.

Our patent, the 148 that's involved in this case, the Raz patent, could not have been brought into the earlier interference. You would have had a component of that interference. It would have been patent versus patent.

Now, what they're attempting to do under the guise of an equitable principle is to accomplish by way of interference estoppel what they could not estab -- what they could not do in any way under 135. It's not permissible.

If they have any recourse and they do, in fact, believe that it's defining the same patentable invention, which is the position they finally took in their reply, their recourse is in a 291. It's not before the Board in an interference.

And we think it's fundamentally improper for them to use an equitable principle to achieve a patent versus patent contest, and we've already addressed the issue, our position that the earlier count does not, in fact, anticipate or render obvious any of the Raz claims.

The lost count expressly states it's a method that involves the administration of an antigen, and our claims expressly say it's without antigen.

JUDGE TIERNEY: Now, when you say "without antigen," are you saying coadminister?

MR. ASHE: We're saying without antigen. Exactly what the claim say. It's a method of treating asthma. Antigen is not administered.

JUDGE LANE: At the same time or --

MR. ASHE: Period. As part of the method of treating.

JUDGE LANE: What if you, like, administered antigen later or earlier? Is that within the scope of your claim?

MR. ASHE: That you'd need to specify -- are you asking the question in the context of an animal model or -- because if you're talking about the method of treatment during the course of treatment, we don't administer antigen. There is in the animal models that are explained in our specification administration of antigen to create the disease state, to create a sensitized mouse.

JUDGE MOORE: Right. And when you're treating a subject who is suffering from asthma, haven't they intentionally or unintentionally been exposed to the antigen?

MR. ASHE: Yeah. So there's your disease state. You have your TH2 condition. And now you're administering your CPG without antigen. You don't even need to know what the particular antigen is and you're alleviating the asthmatic condition. You're shifting the response to a TH1.

Now, the administration, if the -- either in the animal model or environmentally they're exposed to the antigen again, they should be getting a TH1 response at that point, but that's not part of the treatment, and this is where I think the lines really get blurred in the briefs, and Dr. Schleimer went through this very methodically to set forth.

You have sensitization in an animal model, or it could be environmental if it's a, you know, human subject, but we're talking about the method of treatment. That's what being claimed.

I think I've exhausted my time if there are any other questions. Also, I'd like to still reserve five minutes if I could.

JUDGE MOORE: You may reserve.

MR. ASHE: Thank you.

JUDGE MOORE: Mr. Green.

MR. GREEN: May it please the Board, we also have two threshold motions. What I'd like to do is discuss our section 112 motion first, if I may. We -- basically the same fact patterns are -- arise in both the enablement and written description portion of our motion, so I'll just sort of treat them together.

I think there's no dispute from Party Raz that their application incorporates a previous application or the patent incorporates a previous application by reference, the 554 application.

And in that 554 application there's a statement that the particular plasmid, pKCB-LacZ, is -- not only is the plasmid itself not immunostimulatory, but it says in there that that particular plasmid contains no immunostimulatory nucleic acids, and it says that in about three different places in the application.

We think that's a very clear teaching that all of the ISSes, as they've been called, in that particular plasmid are not immunostimulatory.

So what we did is we took a look at the publicly available data for the structure of that particular plasma -- plasmid and we set that out in our exhibit and showed that it has a large number of ISSes in there, a large

number of CGs that would otherwise be within the scope -- that are within the scope of the Raz claims.

And so what you have here is a situation where the Raz claims claim a broad, a very broad number of CGs that are immunostimulatory and that the application or the patent teaches within itself that most of those are not immunostimulatory, so --

JUDGE LANE: Well, doesn't their claim only include the ones that are immunostimulatory?

MR. GREEN: That's a functional limitation which has to be -- under the Rochester case, has to be also described and enabled by the specification. Just putting in a functional limitation would still require one of skill in the art, then, to experiment with each one of those to see if they're immunostimulatory because --

JUDGE LANE: So you have to experiment and you do a screening, but that's -- why is that undue experimentation?

MR. GREEN: Well, the patent contains this conflicting disclosure. It says on the one hand that it would cover everything, but on the other hand, most of them are not immunostimulatory. That's what the patent says basically. Most of the ones within the scope of the claim are not immunostimulatory.

JUDGE TIERNEY: Is this a predictable art?

MR. GREEN: It's somewhat predictable, but again --

JUDGE TIERNEY: So given a particular CG, would you know if it's immunostimulatory?

MR. GREEN: I'm sorry, Your Honor?

JUDGE TIERNEY: Given a particular CG -- CPG, sorry, would you know from the structure whether or not it's immunostimulatory?

MR. GREEN: There are a couple of points on that one. First of all, you wouldn't know for sure, particularly in light of the teachings, that this particular plasmid contains no immunostimulatory nucleic acid. That teaches that that particular one, if it's within that plasmid, is not immunostimulatory. That's the teaching of the patent, the clear teaching.

The other thing is that the claim covers plasmids and a lot of other large polynucleotides, and the placement -- even Raz will admit that the placement of that particular sequence within the plasmid determines whether or not it will have an immunostimulatory effect.

If you place it with certain flanking nucleotides, it may be immunostimulatory. If you place it in another position in the plasmid, it may not be immunostimulatory and that is unknown.

Plasmids are very unpredictable polynucleotides, and there's no guidance whatsoever given in the Raz specification as to where one should place these in a particular plasmid or in a particular polynucleotide to make sure that they do have immunostimulatory effect.

And this is again particularly compounded by the fact that it's taught that none of the ones that are within this pKCB-LacZ plasmid are immunostimulatory, no matter where they are.

So while there are some -- were articles and there were prior art articles and there is some guidance given as to which ones -- which CPGs are immunostimulatory, that guidance in the prior art is directly contradicted by the teachings of the patent.

So that leaves one of skill in the art not knowing which ones are immunostimulatory, and there is no guidance, either in the prior art or in the patent itself that tells you whether they will be immunostimulatory if placed

in any one particular polynucleotide or if placed in a particular location in a polynucleotide.

JUDGE TIERNEY: In the prior art, the immunostimulatory CPGs, that's in none limiting disclosure, correct? There may be others yet to be discovered?

MR. GREEN: Well, yes. I mean --

JUDGE TIERNEY: So we don't know the full extent of how many immunostimulatory CPGs there are.

MR. GREEN: We don't.

JUDGE TIERNEY: And is there a way we can determine them other than animal testing?

MR. ASHE: Well, animal and human testing and probably -- and perhaps some in vitro testing, but you would have to do a lot of testing. You'd have to test each one to see if it had immunostimulatory effect.

JUDGE TIERNEY: And is that undue experimentation?

MR. GREEN: We submit that it would be undue to identify all the ones that are immunostimulatory. I mean, you could -- if you had to test each possible one, you have hundreds to choose from.

JUDGE TIERNEY: Hundreds or millions? Billions?

MR. GREEN: Thousands maybe. I don't know. Many. There's certainly a large number within the scope of this claim. We just feel that the whole scope of the claim is not enable.

I mean, perhaps, yes. You could -- it's a matter of routine experimentation to test for each one, but if you're going to figure out -- if you have to figure out which ones are and which ones aren't, you would have to test each one, and we feel that that amount of experimentation is undue.

JUDGE MOORE: Doesn't that cut both ways, though? Isn't your claim just about as broad?

MR. GREEN: Yes, but we don't teach within the body of the patent that most of them are not immunostimulatory.

JUDGE LANE: Is that true?

MR. GREEN: I'm sorry?

JUDGE LANE: Is it true that most of them are not immunostimulatory?

MR. GREEN: I don't think so, but that's what the Raz patent teaches. It directly contradicts some of the prior art publications and some of the -- some of the publications that have since been published. It says that they're not when, in fact, many of them are.

And that's -- that's the problem is that you're presented in the Raz patent with contradictory and conflicting evidence which leads one to believe that the only way you're going to figure it out is to actually do the experiments yourself.

JUDGE LANE: I'm still a little confused because you just said the experimentation you have to do is just routine experimentation. I still haven't heard an answer as to why it's undue experimentation.

MR. GREEN: Well, again, there were two reasons. One is that in order to en -- it doesn't enable a full scope of the claim.

Yes, you could test each one independently, over hundreds and hundreds and hundreds, and eventually arrive at some determination that all these hundreds are or are not immunostimulatory, but I think that quantity is undue.

But secondly, where they go in plasmid is a very complicated issue and there's no guidance in the prior art, so if you put it in the plasmid

in a particular location, it may be immunostimulatory. It may not be immunostimulatory.

And you would have to test each location in this plasmid to see whether or not it would work as an immunostimulatory nucleic acid.

JUDGE LANE: So are you saying they don't give you a good starting point?

MR. GREEN: They don't tell you anything. They have one polynucleotide that they describe. That happens to be a polynucleotide that encodes an antigen, so that isn't even within the scope of their claim.

So they provide no guidance as to what polynucleotides could be used, let alone where in the polynucleotide you would insert the CPG and that would have to be done for each nucleotide -- polynucleotide.

JUDGE TIERNEY: So what is the length of their CPG? How long can it be?

MR. GREEN: Well, their claim says anywhere from two up to some untold number. The prior art, by the way, teaches that -- their own spec teaches that anything below six doesn't work, and some of the prior art teaches anything below eight doesn't work.

So their claim that covers CPGs, which their own spec teaches don't work and the prior art teaches don't work, so it's board at the lower end as well.

Certainly anything above eight is shown in the prior art to work, but CPG sequences below eight are shown not to work in the prior art and below six are shown not to work in their own spec.

JUDGE TIERNEY: For each position of the sequence there are four possible base pairs, U, C, T, G, that go in each place.

MR. GREEN: I guess that's correct, yes.

JUDGE TIERNEY: So if we have just two that are unknown, we have four times four would be sixteen. We have three that are unknown, we now have 64. We are four that are unknown, we got I believe 264, et cetera, so aren't we talking billions of possibilities here?

MR. GREEN: I don't know if "billions" is the right word, but we're certainly talking thousands and perhaps millions, yes. There are lots of possibilities.

JUDGE MOORE: Raz claim 1 -- or actually 17, which is the involved claim, says at least 6, and Krieg claim 44 says 8 to 100.

MR. GREEN: Yeah. That's correct.

JUDGE MOORE: That's a phenomenal number if you run it out to the end.

MR. GREEN: There are many possibilities, yes, and again, I think to test for a single one to see whether a single CPG is immunostimulatory is not undue, but again, there are so many possibilities here to determine whether -- you have to determine whether or not the entire scope is enabled, and you'd have to have some guidance as to whether or not these thousands and thousands of CPGs are immunostimulatory, and there is no guidance provided.

In fact, again, peculiar to the Raz application, there's a teaching that most of those are not immunostimulatory. We don't have such a negative teaching in our application so we're not similarly constrained.

JUDGE TIERNEY: What guidance do you provide that Party Raz does not as to which ones are immunostimulatory?

MR. GREEN: Well, we list a large number of ones that we have found that are immunostimulatory, and, as Raz has pointed out, there's quite a bit of published literature that identifies a large number --

JUDGE TIERNEY: But again, your claims aren't limited to those which you've described. Your claims are open to additional ones.

MR. GREEN: They are. They are. But not nearly as broadly as theirs, and so we feel that the limited number plus the guidance that we give is sufficient to describe an enable art claim.

JUDGE TIERNEY: Which particular guidance are we speaking of as to which of the unknown, untested CPGs are immunostimulatory?

MR. GREEN: Well, first of all, I don't have the number, but we've tested quite a few more than they have and we have a large number of examples. If you like, I can find the points in the specification where those are given.

And again, even within the Raz specification, there are citation to a number of prior art references, including our own publications, that identify ones that are -- have been proven to have immunostimulatory effect, not necessarily for asthma, but for immunostimulatory effect generally.

JUDGE TIERNEY: I understand that the prior art you're telling me has identified a certain subset of CPGs that are immunostimulatory, but neither party's claimed to have directed solely to those immunostimulatory sequences, and I'm wanting to know, what is the guidance you provided to go beyond that teaching of prior art?

MR. GREEN: Well, I would direct Your Honor's attention to sequences provided on pages 29 and 30 of our application, which are numbered with the hand as 30 and 31.

JUDGE MOORE: What exhibit number is that?

MR. GREEN: I'm sorry?

JUDGE MOORE: What exhibit number is that?

MR. GREEN: This is exhibit -- this Raz Exhibit -- well, I'm looking at actually Raz Exhibit 2004. I think it's our Exhibit 1001, is it? It's our application anyway. But you can find it at Raz Exhibit 2004. So I would direct Your Honor's attention to those two pages.

JUDGE LANE: I'm sorry. Could you tell me what pages.

MR. GREEN: Yes. The numbered pages in the application are 29 and 30. They show up as handwritten numbers 30 and 31 at the bottom of the pages of the exhibit.

The other threshold motion, which has already been discussed to some extent, is the -- is, of course, the estoppel motion.

JUDGE MOORE: How do you reconcile the fact that the count in the previous interference, 105,171, I believe, was -- included the language, A method, dot, dot, dot, and an effective amount of the allergen whereas Raz claim 1 says, A method dot, dot, dot, administered without the antigen?

How do we --

MR. GREEN: The -- ours -- yeah, the lost count clearly requires the administration of antigen or allergen. There's doubt about that. But it doesn't -- isn't required to be simultaneously. It could be over any period of time; it could be before, it could be during, it could be after.

The Raz claim, all it excludes, in our view, is coadministration. In fact, Raz, when they first filed their no interference in fact motion, characterized it as a claim requiring only excluding coadministration.

We seized on that interpretation and then we were told later that it was a fundamentally flawed interpretation of the claim, even though that's how they characterized the claim. But -- and that's -- if you look at the file

history, if you look at the specification, it seems to be fairly clear that the only thing they're excluding is coadministration.

There's one example in the specification that talks about how this particular method can be used with traditional immunotherapy where you administer antigen or allergen in conjunction with the treatment.

And so the only way that the claim would make sense in light of that would be that you would not coadminister at the same time antigen and the CPGs, but you could administer antigen at various times around that.

And so you'd use traditional immunotherapy with the administration of small doses of antigen or allergen along with CPG, which would just not be administered simultaneously with the antigen or allergen.

The -- which means then that under their -- and the other thing you've got to remember too, their claim says -- has the word "comprising" in it. So it says, "Comprising that step."

That doesn't mean that you can't have a second step where they administer antigen or allergen at some other time. It doesn't exclude that. It's not a closed-end claim.

Should they have wanted to claim therapy that was antigen free, as they've later stated after saying it was just without coadministration, but if they wanted to claim an antigen-free therapy, they could have said so. They could have closed off the claim.

They could say, Consisting of step of, and then have the step that they had or they could have said, Without ever administering antigen or allergen. They didn't say that.

And so in our view, the claim very clearly is only limited to excluding coadministration, which is a very narrow exclusion.

So our claim, which recites administration of CPGs and antigen, includes every step in a claim that only excludes coadministration because they could have -- if you look at it as, you know, our line goes straight across; their line has a gap in it and then goes on from there, we have every -- every limitation in our claim matches up with the limitation in their claim, so it anticipates the claim.

And so that's our view of that particular limitation, and obviously the Board's going to have to conduct their own construction of the claim, but that's our view as to how the claim ought to be construed.

The -- the other -- touched on these other points. The other one I'd like to touch on here is the interference, just briefly, on their interference in fact motion. They -- the only -- they have argued basically there are two limitations that are missing.

They first say that the limitation without coadministration is missing, but our claim is silent as to the administration of antigen, so a claim that's silent as to the administration clearly would be the same that says without coadministration because it doesn't require the administration of the antigen at all.

It covers both no administration or it covers administration. Ours is also an open-ended claim.

The other point I'd like to make, too, is the polynucleotide that we have in ours is limited from 8 to 100 nucleotides.

So that's too small, in most instances anyway, too small to include all the machinery for encoding an antigen, so by implication, even though it isn't explicitly stated, it would be a polynucleotide that does not encode the antigen because it just can't with that small of a polynucleotide.

A couple of things I'd like to address in their reply to their -- to their motion, the 112 motion. They argue that -- you know, our position is that the -- is -- as indicated by Raz, is that these Kline abstracts are ambiguous. Most of them, of course, are dated after the filing date, two of them are dated after the filing date, but they're ambiguous.

And also, you have to consider those in light of the other prior art. That there's the Li, the Huang and the Tam references, all of which teach that you can use monotherapy or something in the absence of antigen or allergen to increase the TH1 profiles and decrease -- increase the TH1 cytokines and decrease the TH2 cytokine profiles.

And all of those were -- include data that show that there is a shift from TH2 to TH1.

They're all done -- they're all done without the administration of antigen or allergen and they all are done -- the Tam reference in particular uses in vitro data, human in vitro cells, while the other ones use animal tests, and there's a clear indication -- it indicates the TH2 profiles as well as the TH1, so you can see that there's actually a shift, so all of these have to be considered together.

A couple of points I'd like to make with regard to statements they made.

JUDGE MOORE: You have about two minutes.

MR. GREEN: I'll get to those very quickly then.

They state that the Tam patent would not have led one of ordinary skill in the art to conclude that the ribavirin would be useful for the treatment of asthma because it only provides TH1 cytokine profile data. That's just plain wrong. It also provides a TH2 cytokine profile data.

They argue that in their written description section the original claim 16 isn't support, written description support, because it's in the parent application.

Well, we claim priority from the parent application, so it -- even though it was presented in the parent application, the specifications are identical and it's just a continuation application, and we feel we're entitled to rely on claim 16 as a basis for written description.

Well, Dr. Wallner and Center both testified that just looking at the TH1 cytokine profiles is not enough. That doesn't matter because in our specification we give both the TH1 and TH2 cytokine profiles and you can see that there's a shift in the in vitro data.

The law I think is very clear that in vitro data is adequate for demonstrating written description and enablement, and in fact, Dr. Schleimer himself filed an application that relied entirely on in vitro human cells and that was allowed as a patent.

Am I out of time?

JUDGE MOORE: You are, Mr. Green. Thank you.

MR. GREEN: Thank you.

JUDGE MOORE: Mr. Ashe, you have five.

MR. ASHE: Thank you. In the time that I have I would like to methodically walk through this issue regarding the scope of CPG which is raised by their motion, but before doing that, there were two questions raised by Judge Tierney regarding the state of the art and whether or not it was predictable.

The question was asked at two different points in the process. The question was first put to me, Is it a predictable art, and we were discussing what the state of the art was at the time with regard to TH1, TH2

profiles, et cetera, and whether going from that to an actual method of treating asthma would be predictable. My answer is no. It remains no.

The same question, Is it a predictable art, was asked of Mr. Green in the context of knowing whether any particular CPG is an immunostimulatory sequence, and I believe the answer was no. We believe the answer is yes.

You can -- it was predictable in terms of being able to identify a potential CPG containing nucleotide sequence and then conduct standard testing to determine whether, in fact, it's immunostimulatory, and there was one other question about whether that requires an animal model. That component of it does not require animal testing.

Determining whether the composition itself is immunostimulatory can be done via in vitro answers to see whether it induces an actual TH2 or TH1 response, so I just wanted to clarify those points.

JUDGE TIERNEY: And then so going from immunostimulatory sequence that you've discovered or someone's found to a method of treating asthma, though, in a mammal would require animal testing?

MR. ASHE: Yes. So let's look at their argument. They're saying that we have a major problem because either somebody wouldn't know or somebody, one of ordinary skill in the art, would be confused by what we mean by immunostimulatory sequence as it's recited in our claims.

We asked both of their witnesses, Look at the claim. You see that it recites CPG, an immunostimulatory CPG. Any problem understanding that?

No. No problem at all. When we were discussing the client '96 abstract, Do you understand what's meant by the term CPG in there, what's encompassed, Dr. Center said it was a recognized class of compositions.

So that's what we're starting with. Then we can go back to our specification --

JUDGE TIERNEY: Is that a recognized sequence or a recognized function?

MR. ASHE: It's a recognized -- there are -- it's a recognized function that is associated with particular motifs. The CPG is one of the motifs for these immunostimulatory sequences.

JUDGE MOORE: Are these known motifs?

MR. ASHE: I'm sorry?

JUDGE MOORE: Are these known, these motifs?

MR. ASHE: Yes, and they were well recognized in the art, and that's, again, one of the values of this client '96 abstract is it recognizes this was known in the art.

And there were several -- as reported in our specification, there were several references, including some of Krieg's, that describe the existence of the sequences and recognize that it's a class of compounds that have motifs and they can be immunostimulatory.

But at the end of the day, you always have to test it. No matter what, you cannot look at a sequence on a piece of paper and say, oh, it has a CPG. It's between six and ten; therefore it's immunostimulatory. You always have to test it.

And that's what was known in the art. It's reflected in our application; therefore, the question is, how are they getting to this position that there would somehow be confusion?

What they're doing is they're going to our specification, finding an application that was incorporated by reference, going to a specific example there, looking at a plasmid that we said this is not an immunostimulatory sequence. If you place this additional sequence in, it becomes immunostimulatory.

So that's just basic testing. Routine. You can test it and see whether or not it's immunostimulatory. Two tests and you walk away from that example and you know what is and what is not immunostimulatory.

Then their expert, Dr. Wallner, went well beyond the specification. The actual sequence of this plasmid was never disclosed or emphasized in the application in the specification.

They went, they tried to assemble it and then they conducted an artificial breakdown of that sequence that said, ah, since you said it wasn't immunostimulatory, that means that every single artificial hexamer that we can pull out of it you've also said is not immunostimulatory, and then it's not supported by the specification. It's not supported by the art.

We went through on cross-examination and said, Okay, you now have this list, but you're saying you're not immunostimulatory. Did you test them?

No. No need to.

Why not? He said that they're not immunostimulatory.

Well, a lot of these are listed in the references in the prior art as being immunostimulatory. Is the prior art wrong? No.

It's just that Raz in this statement, unincorporated by reference, causes confusion, and we think that that is not a legitimate analysis and the claim is clear. Our specification is clear. The prior art's clear. The CPG that's immunostimulatory is within the scope of our claims.

JUDGE LANE: So you give one example, is that right, of a working sequence?

MR. ASHE: No. That's not correct. We disclose in our specification a body of literature that describes ISSes that were known and have been tested and also define the structural characteristics as well as this immunostimulatory feature, and we also list out 18 immunostimulatory hexamers that fall within this formula.

We have one working example where we use the immunostimulatory sequence in the context of the method of treating asthma, and we asked their witnesses -- I think it was Dr. Wallner -- okay.

Now that we have this one working example, would one of ordinary skill in the art, seeing that the methodology actually works, understand that you could then take anything that passed as a CPG containing immunostimulatory sequence, put it into that methodology, and it would work?

And she said that would be reasonable.

So that's really the lines of distinction that I want to draw in terms of what the state of the art was.

JUDGE TIERNEY: I guess my concern is, the way I read your claim is it encompasses immunostimulatory sequences that are already known, but also it opens up the claim to anything that's going to be discovered.

MR. ASHE: Yes.

JUDGE TIERNEY: And that could be hundreds of additional immunostimulatory sequences. It could be millions. It could be billions. It's open-ended. You'd have to test each particular sequence to determine whether or not it's immunostimulatory and then conduct the additional

testing on an animal model to see if it's useful for a method of treating asthma.

MR. ASHE: Well, I want to be sure that we're keeping the lines clear as to what we're claiming and what standard of enablement and written description attaches to that. We're claiming a novel and nonobvious method of treating asthma and that method comprises administering these immunostimulatory CPGs.

So yes, it does encompass anything that is an immunostimulatory CPG is within the scope of our claims because we're claiming the method of using that class of compounds.

JUDGE TIERNEY: Anyone that actually works for treating asthma, correct?

MR. ASHE: Right. And that does not put the burden -- it's simply whatever falls within that category is within the scope of the claims.

JUDGE LANE: Does your spec say that the sequence has to be at least six nucleotides in length?

MR. ASHE: I believe it does, yes.

JUDGE LANE: How is your claim limited to that, claim 1?

MR. ASHE: I think that it doesn't have the -- first of all, I think that the claim is appropriately limited by identifying characteristic motif that was recognized by those of ordinary skill in the art of being indicative of this class of compositions, combined with the immunostimulatory effect of this.

JUDGE LANE: So you're saying that because you say it has to be immunostimulatory; therefore, it has to be at least six, so that's already a limitation in your claim 1?

MR. ASHE: I'm not sure -- I know that there is a statement that says of the sequences that were tested, those below a certain length were not

immunostimulatory, but I don't think that it necessarily excludes ones that might be smaller, although I'm not certain on that. I did not consider that issue.

JUDGE LANE: Okay.

MR. ASHE: Are there any further questions?

Thank you.

JUDGE MOORE: Ladies and gentlemen, thank you. This hearing is over. We'll take the matter under advisement.

(Whereupon, the proceedings at 10:53 a.m. were concluded.)

CERTIFICATE OF REPORTER

I, Janice A. Salas, do hereby certify that the foregoing proceedings were taken by me in stenotype and thereafter reduced to typewriting under my supervision; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

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